IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	§	Confirmation No.	9522
David J. Corisis et al.	§		
	§	Group Art Unit:	2835
Serial No.: 09/152,659	§		
	§	Examiner:	Chervinsky, Boris Leo
Filed: September 14, 1998	§		
	§		
For: INTEGRATED CIRCUIT PACKAGE SUPPORT SYSTEM	§	Atty. Docket:	
	§	MICS:0180-2/FLE/MAN/TOM (97-553.02)	

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May 5, 2008	**/Robert A. Manware/**
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PRE-APPEAL BRIEF REQUEST FOR REVIEW

In accordance with the Official Gazette Notice of July 12, 2005, Appellants respectfully submit this Pre-Appeal Brief Request for Review. This Request is being filed concurrently with a Notice of Appeal. In the Final Office Action mailed March 5, 2008, the Examiner rejected claims 33-38, 41, 42, 68, 69, 70, and 71-73 under 35 U.S.C. § 103(a) as being unpatentable over Chiu (U.S. Patent no. 5,239,199) in view of Jeffries (U.S. Patent No. 5,815,371), or alternatively in view of either Edfors (U.S. Patent No. 5,050,039), or Russell (U.S. Patent No. 5,432,678). The Examiner also rejected claims 39, 40, 43-45, 74 under 35 U.S.C. § 103 (a) as being unpatentable over Chiu in view of Jeffries and further in view of Cipolla (U.S. Patent No. 5,343,366) or alternatively in view of Shuff (U.S. Patent No. 5,812,374). Appellants respectfully assert that the rejections of record are clearly not proper and are without merit, based upon clear deficiencies in the rejections, discussed in detail below.

Deficiencies of the Rejection of Independent Claims 33, 68, and 71

Appellants respectfully assert that the Examiner has made at least one factual and/or legal errors with regard to the rejection of independent claims 33, 68, and 71, each

of which renders the rejection improper for at least three reasons. More specifically, Apellants assert that the Examiner's combination of Chiu and the secondary references of Jeffries, Edfors, and Russell is unsupported by the cited prior art and the invention disclosed in Chiu, because: 1) Chiu teaches away from the asserted combination; 2) Such an obviousness determination does not have any "rational underpinning to support a conclusion of obviousness." M.P.E.P. §2142; and 3) the "proposed modification" necessary for the obviousness conclusion makes the prior art (Chiu) "unsatisfactory for its intended purpose." M.P.E.P. §2143.01. Appellants assert it would not be obvious to secure the unsecured support of Chiu as disclosed in Jeffries, Edfors, or Russell, for the reasons set forth below.

The fixture disclosed in Chiu is designed to be unsecured to a surface so that devices may be removed and inserted into the fixture during testing and burn-in, providing "easy repair and replacement of devices." *Id.*, col. 3, lines 63-64. As stated in Chiu and as acknowledged by the Examiner, the fixture/heat sink disclosed in Chiu "may be sprung open for securing the heat sink of each device…[e]ach leg 31c and 31d moves, for example for "a" to "b" when the legs are pulled apart." Chiu, col. 3, lines 22-30. As further discussed in Chiu, the fixture/heat sink is not secured to the surface to provide a system such that "[a]ny bad devices from an array can be removed from the fixture and replaced with a good device." *Id.*, col. 3, lines 54-56.

In contrast, the three secondary references cited by the Examiner each disclose a fixture or support that is secured to a surface or printed circuit board and used for a clearly different purpose than the support disclosed in Chiu. For example, the device disclosed in Jeffries is used to support and secure a "daughter board to a mother board," such as in the context of a "desktop computer or a tower computer." Jeffries et al., col. 2, lines 59-65. Further, the "heat dissipater" disclosed in Jeffries "prevents the daughter board 14 from vibrating back and forth, but also prevents the daughter board from releasing from the connector 16." *Id.*, col. 3, lines 66-67; col. 4, lines 1-2. Similarly, the device disclosed in Edfors discusses an assembly in which "a plurality of circuit chips…have their top sides thermally and mechanically attached to…a centrally disposed

metal sink block" emphasis added. Edfors, col. 1, lines 64-67; col. 2, line 1. Additionally, the circuit chips discussed in Edfors are attached "with a thermally conductive electrically insulating adhesive such as diamond filled epoxy." *Id.*, col. 3, lines 20-25. Finally, Russell discloses a "mounting pad" for an "integrated circuit chip" to be secured to a printed circuit board. Russell, col. 1, lines 55-66. The integrated circuit chips are "bonded to the mounting pad (102) with thermally conductive adhesive or epoxy" emphasis added. *Id.*, col. 3, lines 43-47. Additionally, in Russell, the "side and central portions" of the "mounting pad" are secured by "solder or conductive epoxy…applied to the aperture." *Id.*, col. 4, lines 1-5. Thus, the devices and techniques disclosed in Jeffries, Edfors, and Russell are not used during testing or burn-in, but are used to secure boards or chips and are not intended to secure multiple devices for easy insertion or removal.

First, Chiu teaches away from combination with the secondary references Jeffries, Edfors, and Russell. For example, as stated above, Chiu includes a fixture/heat sink designed to be used during testing and burn-in of memory chips, and Chiu specifically states that this functionality allows easy repair and replacement of such chips. To allow this easy repair and replacement, the fixture in Chiu is unsecured to any surface so that the legs 31c and 31d can be pulled apart. Chiu teaches away from the devices disclosed in Jeffries, Edfors, and Russell by providing a support unsecured to a surface for a different purpose and in stark contrast to the teachings stated in Jeffries, Edfors, and Russell.

Similarly, as stated above, there would be no "rational underpinning" to use the inventions disclosed in the secondary references of Jeffries, Edfors, and Russell in combination with Chiu, as there is no need for any mounting technique that permanently secures the fixture in Chiu. Any use of a permanent mounting device, such as those disclosed in Jeffries, Edfors, or Russell, would eliminate the ability to remove or insert devices into the fixture of Chiu during testing or burn-in. Further, the epoxies or adhesives used to secure the support in the Jeffries, Edfors, or Russell references would make those devices unsuitable for use during testing or burn-in if replacement of chips or

devices is desirable. Therefore, the Examiner's assertion that it would have been obvious to one having ordinary skill in the art to secure the support via the techniques disclosed in Jeffries, Edfors, or Russell in the device disclosed by Chiu for "better stability" is not supported by any of the references.

Finally, "if the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation." M.P.E.P. § 2143.01(V). As stated in Chiu, a purpose of the invention disclosed therein is to provide "easy repair and replacement of devices." Chiu, col. 3, lines 63. In the present case, the Examiner is proposing securing the fixture in Chiu by the techniques disclosed in Jeffries, Edfors, or Russell. As discussed above, during testing or burn-in of the devices in the fixture of Chiu, "the legs 31c and 31d are opened or moved apart to insert the heat sinks 16 into slots 31b." Id., col. 3, lines 24-26. Securing the fixture, as suggested by the Examiner, is not feasible and would prevent the legs from being opened or moved so that devices may be inserted or removed. Thus, using the secured support techniques of Jeffries, Edfors, or Russell with Chiu would the purpose of Chiu and render Chiu unsatisfactory for its intended purpose.

Further Deficiencies of the Rejection of Independent Claims 68 and 71

Appellants respectfully assert that the Examiner has made further factual and/or legal errors with regard to the rejection of independent claims 68 and 71, each of which renders the rejection improper. Independent claim 68 recites, *inter alia*, "at least one rail coupled to the surface, wherein the rail extends along the sides of the plurality of integrated circuit packages and is configured to engage the plurality of integrated circuit packages." Independent claim 71 recites, *inter alia*, "a cross piece coupled to the surface and extending over the plurality of integrated circuit packages in a direction transverse to the plurality of integrated circuit packages." Appellants assert that Chiu does not disclose the claim features of claims 68 and 71 recited above.

In the Final Office Action, in responding to the Appellants argument that Chiu does not disclose the claim features of claims 68 and 71 recited above, the Examiner

stated "[a]pplicant's argument with respect to functional applications of the devices disclosed in the prior art which are not, in applicant's view, can be applied to the claimed device is irrelevant since all structural elements are disclosed and the functional limitation does not require any structural change." Final Office Action, pages 4-5.

Appellants assert that the recited claim elements are not "functional limitations" but recite structure of the electronic device claimed by claims 68 and 71. As such, Appellants believe that such structural limitations are not disclosed in Chiu. In contrast, the structure disclosed in Chiu engages the top of various memory devices, and does not include a rail extending along the sides of the memory devices as recited in claim 68. As stated in Chiu, "[t]o assembly [sic] an array 30 of devices 10, they may be mounted in heat sink/holding fixture 31 by placing the heat sink 16 of each device in a slot 34 in the top of the fixture." Id., col. 2, lines 50-54. Thus, Chiu does not disclose the structure of "at least one rail" that "extends along the sides of the plurality of integrated circuit packages."

Further, and in contrast to claim 71, Chiu discloses a fixture 31 that includes a slot in the fixture to engage each device and appears to engage each device in a longitudinal direction. Chiu, col. 2, lines 49-53. Further, as seen in FIG. 6 in Chiu, there is no cross piece that extends over the devices as recited in independent claim 71, but rather, the fixture 31 includes slots such that the devices insert into the fixture itself. Id., FIG. 6. Accordingly, Chiu does not disclose the structure of "a cross piece…extending over the plurality of integrated circuit packages" as recited in independent claim 71.

Appellant notes that claims 34-45 are dependent on claim 1, claims 69-70 are dependent on claim 68, and claims 72-74 are dependent on claim 71. Appellants assert that the Examiner's rejection of these claims is improper, as well, for the reasons discussed above.

Respectfully submitted,

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